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AUTOCTHONOUS ORIENTAL SORE IN PANAMA.

BY

DR. S. T. DARLING,

Chief of Laboratory, Ancon Hospital, Canal Zone.

(Paper read at a Meeting of the Society of Tropical Medicine and
Hygiene, Friday, November 18th, 1910).

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AUTOCTHONOUS ORIENTAL SORE IN PANAMA.

By DR. S. T. DARLING,

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This account of an autochthonous case of Oriental sore in Panama is of interest, because it adds one other to the list of regions to be included in the geographical distribution of this disorder; and as the case is a solitary one, it raises again the question of the individuality or specificity of the different strains of *Leishmania-tropicum* causing Oriental sore. The lesion in this case apparently followed the bite of a tabanid.

Very few cases of Oriental sore have been reported from the New World. Wright's case, reported from Boston, Mass., U.S.A., from which the etiological factor was first described was an Armenian girl, and the lesion had appeared before she had left Armenia.

Juliano Moreira, in 1896, reported its occurrence in Bahia, Brazil.

Five cases were reported by Carini and Paranhos* among Syrian, Portuguese and Brazilian labourers at Baurú, St. Paul, Brazil.

A case has also been reported occurring in French Guiana.†

The case described here is the first that has been brought to the attention of the writer, who had searched among natives of this region and those of the West Indies for several years. The failure may be attributed partly to the fact that the hygienic surroundings of the Canal employees and of the inhabitants of the Canal Zone and of the cities of Colon and Panama have been vastly improved since the American occupation. Examples of Tropical ulceration, so common in 1904, and early in 1905, have almost entirely disappeared, except among those who are living out in the bush beyond the pale of sanitary measures.

The patient, J. A. C., negro, aged 44 years, was born in Demerara. He lived in Paramaribo three years and in Nickeri for 18 months, and subsequently in Trinidad for 24 years. In September, 1909, he came to the City of Panama, where he lived one month. Since October, 1909,

* Revista Medica de São Paulo, Brazil, March 31st, 1909.

† Nattan-Larrier, Tonin et Keckenroth : Bull. Soc. path. exot. p. 587, 1909.

he has been living on a cacao and rubber plantation, several miles from Empire, out in the bush. The residents at the plantation are native Colombians and Jamaican negroes. There are no natives of nor visitors from the Levant, India, or other regions of the Old World where Oriental sore is endemic. The patient states that he has never noticed anywhere a sore similar to his.

One day in May, of this year, while sitting under a wild cashew tree, the man was bitten on the forearm by a large fly, which, from his description, was a tabanid. The wound was scratched, and the resulting sore exuded a watery fluid. The patient, to relieve the itching, continually pinched and scratched the sore, thus preventing the formation of a crust. The sore remained in this condition for about a month, when it increased in size and a very hard thick crust formed on its surface. The itching now ceased, but the margins became quite tender. During the past three months the sore has been from 20 to 30 mm. in diameter.

The patient presented himself at the laboratory on August 17th, 1910. The sore was located on the right forearm near the wrist on the ulnar aspect. It was circular and covered with a raised, flat, granular, greyish-yellow crust, which was very thick and hard. At this time, after four months' duration, the outside diameter, including the raised skin-margin, was 22 mm.; the diameter of the crust was 17 mm. Upon lifting the crust a circular fossa was seen, separating the raised skin-margin from the granulating and healing surface of the ulcer. The appearance and location of the ulcer were so characteristic that the diagnosis of Oriental sore was at once suggested. Portions of the crust were removed and smears made from the granulating surface, which bled easily. A few micro-organisms, exactly resembling *L. tropicum*, were found. On August 26th the patient entered the hospital for treatment. The ulcer was excised well beyond the raised margins and below to normal subcutaneous tissue (Dr. HERRICK).

CHARACTERS OF THE MICRO-ORGANISMS.

Smears from its granulating surface contain free and intracellular micro-organisms, resembling *L. tropicum*. Most of them are oval, one end obtuse, the other more acute. All contain a tropho-nucleus and a kineto-nucleus; a few present small achromatic spaces in the pale blue

cytoplasm. A refractile capsule is not detected; some are intracellular groups of two, four, five, and eleven, or more.

DIMENSIONS OF THE MICRO-ORGANISMS.

Length.	Breadth.	
6 mm.	3.5 mm.	
5 mm.	3.5 mm.	Length of kineto-nucleus 1.5 mm.
6 mm.	3.0 mm.	Diameter of tropho-nucleus 2.75 mm.
9 mm.	4.25 mm.	

The micro-organism, while slightly larger than some of those described elsewhere, presents the same morphology noted in cases from the Old World, and it closely resembles the gregarine phase of *Crithidia* found in representatives of *Tabanus* and other invertebrates. It is not impossible that the case described here, following as it does the history of a bite by a tabanid, is the result of an inoculation with an invertebrate gut flagellate (*Crithidia?*), which was able to take on a parasitic existence in the tissues of man.

HISTOLOGICAL EXAMINATION OF THE TISSUE FROM THE ULCER.

The corium and papillæ are richly infiltrated by newly-formed cells of the lymphoid, endothelial, plasma, epithelioid, and giant cell types, the latter having a mural arrangement of the nuclei. There is no polymorphonuclear leucocytic infiltration and no necrosis. The surface of the ulcer is nearly covered with squamous epithelium which shows considerable metaplasia. Numerous interpapillary down growths of the rete are seen, sometimes enclosing a cell-nest and separating the newly-formed cells in the corium into parallel, oblong, and circular chambers. The squamous epithelium is surmounted by a mass of desquamated epithelium (crust), staining intensely with eosin. The sweat glands, lymphatic and blood vessels in the deeper layers of the skin, are almost always surrounded by newly-formed collections of small, round cells of the lymphoid type. A few intracellular micro-organisms, resembling *L. tropicum*, are seen singly or in small groups alongside the nucleus of an endothelial epithelioid or other cell in the corium. One micro-organism was seen close beside the margin of a giant cell.

Smears from the ulcer were stained for the presence of acid fast bacilli, but none were found.

This brief description of the histopathology of the ulcer, while differing from that of WRIGHT, is not unlike, in certain particulars, those of THOMPSON* and BALFOUR and FIRTH.†

This is probably due to the fact that descriptions in the literature have been made at different stages in the development of the lesion—*i.e.*, the predominance of parasitised endothelial cells and atrophy of the epithelium being seen earlier, while the predominance of lymphoid and plasma cells, the appearance of the epithelioid and giant cells with metaplasia of epithelium, and relatively fewer micro-organisms, being noted in the older lesions; or the differing histological pictures may be the result of infections by different varieties of flagellates having different degrees of virulence, and eliciting different histological changes.

The case is very clearly one of Oriental sore—a term, however, which should, no doubt, be replaced by one more definitely related to the pathogenic agent and the location of the lesion, such as Dermal Leishmaniosis or Ulcerating Leishmaniosis.

The lesion occurred in a West India negro, native of Demerara, who had been living on the Isthmus of Panama eight months. It followed the bite of a fly, which was evidently a tabanid.

The pathogenic agent, *L. tropicum*, was found in small numbers, free and intracellular, in smears and sections of tissue. It was somewhat larger than those described from the Old World, and possibly represents a distinct species.

The symptomatology, location of lesion, and histopathology correspond with those of Oriental sore.

*Transactions of the Society of Tropical Medicine and Hygiene, London, Vol. 3, No. 3, pp. 107-128.

† Allbutt's System of Medicine.



